

NEAQS 2004

**Meteorological summary for Gulf of Maine and northern coastal New
England**

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General

(From PSU synoptic summary): The Low Pressure system continued its track up the coastline throughout the day. A lot of moisture was pumped up from the ocean bringing about showers all through New England ahead of the Southward approaching warm front. Low Level Winds: 00Z (18): Inland: NE 5-10 kts; Coastal: N/NW 5-10 kts; Offshore: SW 5-10 kts. 12Z (18): Inland: NE 5 kts; Coastal: Light and Variable; Offshore: S/SE 5-10 kts. 00Z (19): Inland: W/NW 5-10 kts; Coastal: W 5-10 kts; Offshore: S/SW 10-15 kts.

Temperatures (highs): Pease 81F / 27C, Gulf of Maine Buoy (44005) 65F / 18C, Yarmouth 65F / 18C

Temperatures (lows): Pease 65F / 18C, Gulf of Maine Buoy (44005) 59F / 15C, Yarmouth 54F / 12C

Fog: Fog surrounding the coast of Nova Scotia throughout the day. Some patchy fog settled in Southern ME in the early morning hours. Clouds: Clouds increased dramatically throughout the forecast period leaving most of New England with overcast conditions through the evening. Northern ME=Broken.

Ozone and CO

Modest levels of ozone were observed at the ship in southerly to southwesterly flow. This was probably 12-24 hour transport from the urban corridor.

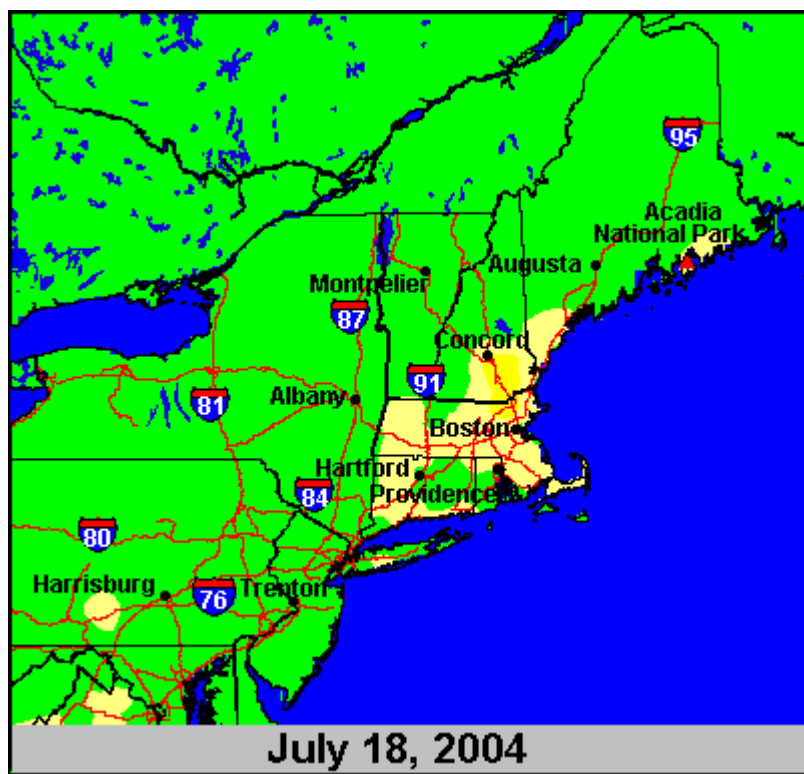


Figure 1: Maximum 1-h surface ozone from EPA AIRNOW

Footprints

Footprint S-R-Relationship for flight RHB_cruise1

Start time of sampling 20040718. 801 End time of sampling 20040718. 3301

Lower release height 0 m Upper release height 30 m

Meteorological data used is 1x1 deg ECMWF analyses

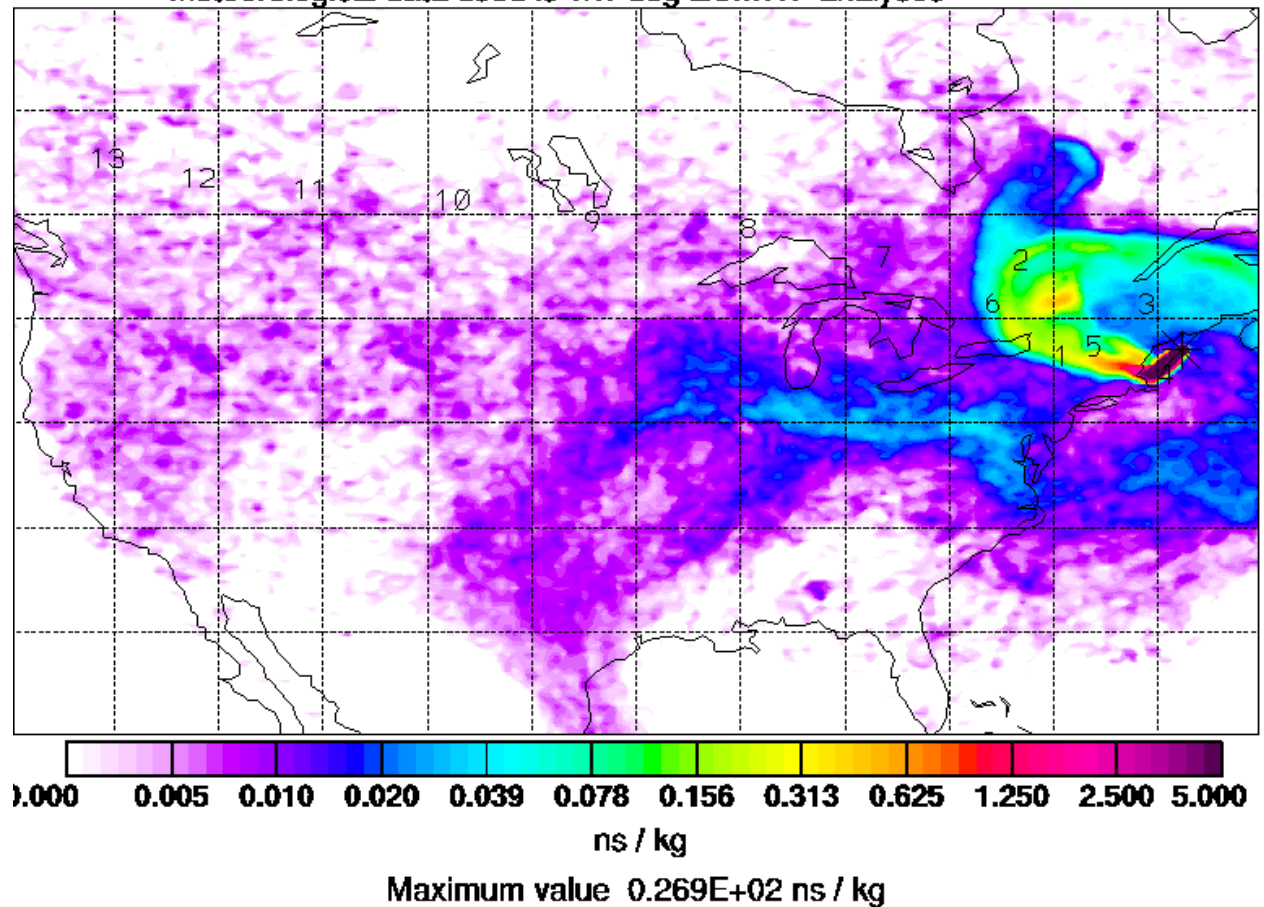


Figure 2: FLEXPART footprint for 0008-0033 UTC

Footprint S-R-Relationship for flight RHB_cruise1

Start time of sampling 20040718. 54501 End time of sampling 20040718. 60701

Lower release height 0 m Upper release height 30 m

Meteorological data used is 1x1 deg ECMWF analyses

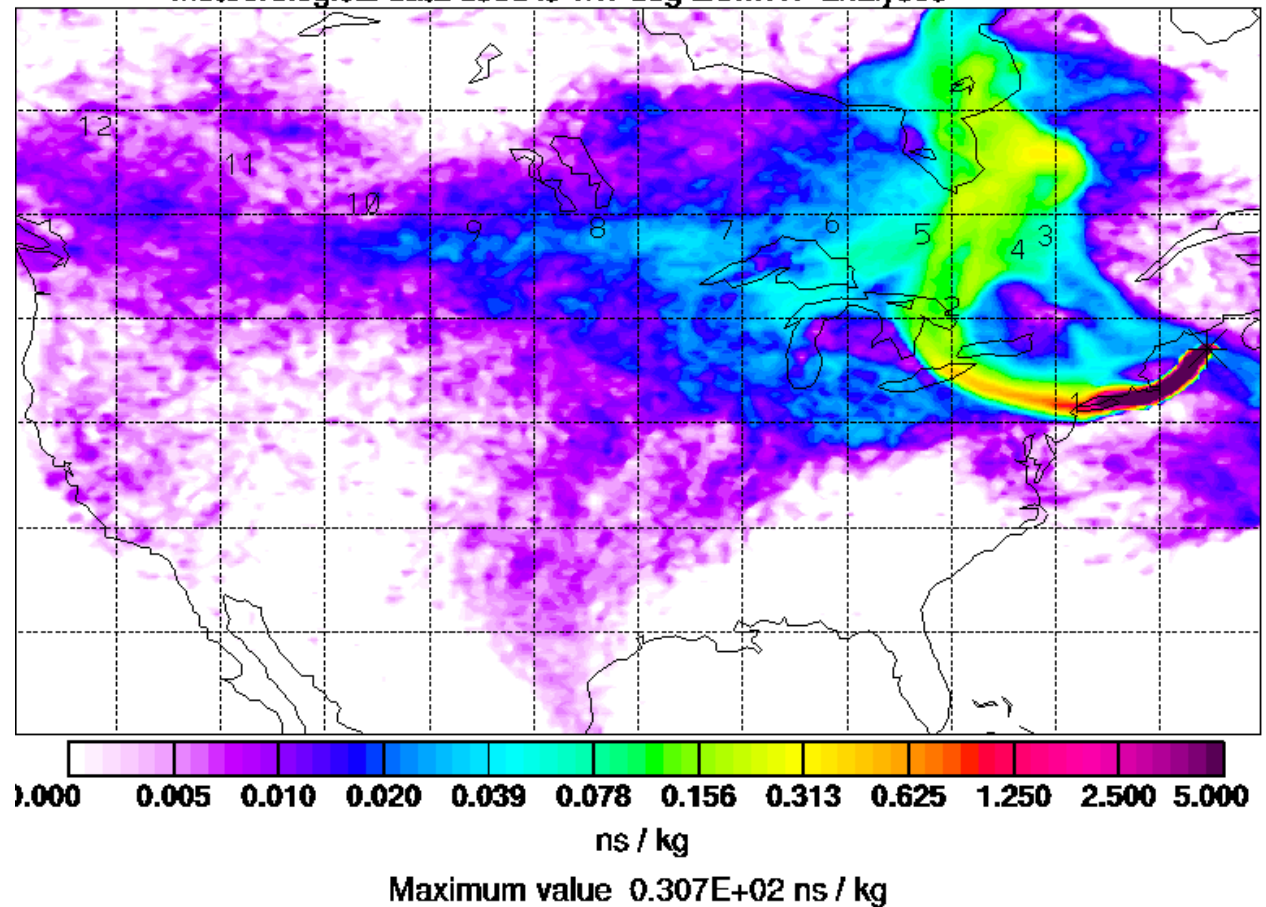


Figure 3: FLEXPART footprint for 0545-0607 UTC

Footprint S-R-Relationship for flight RHB_cruise1

Start time of sampling 20040718.113901 End time of sampling 20040718.120801

Lower release height 0 m Upper release height 30 m

Meteorological data used is 1x1 deg ECMWF analyses

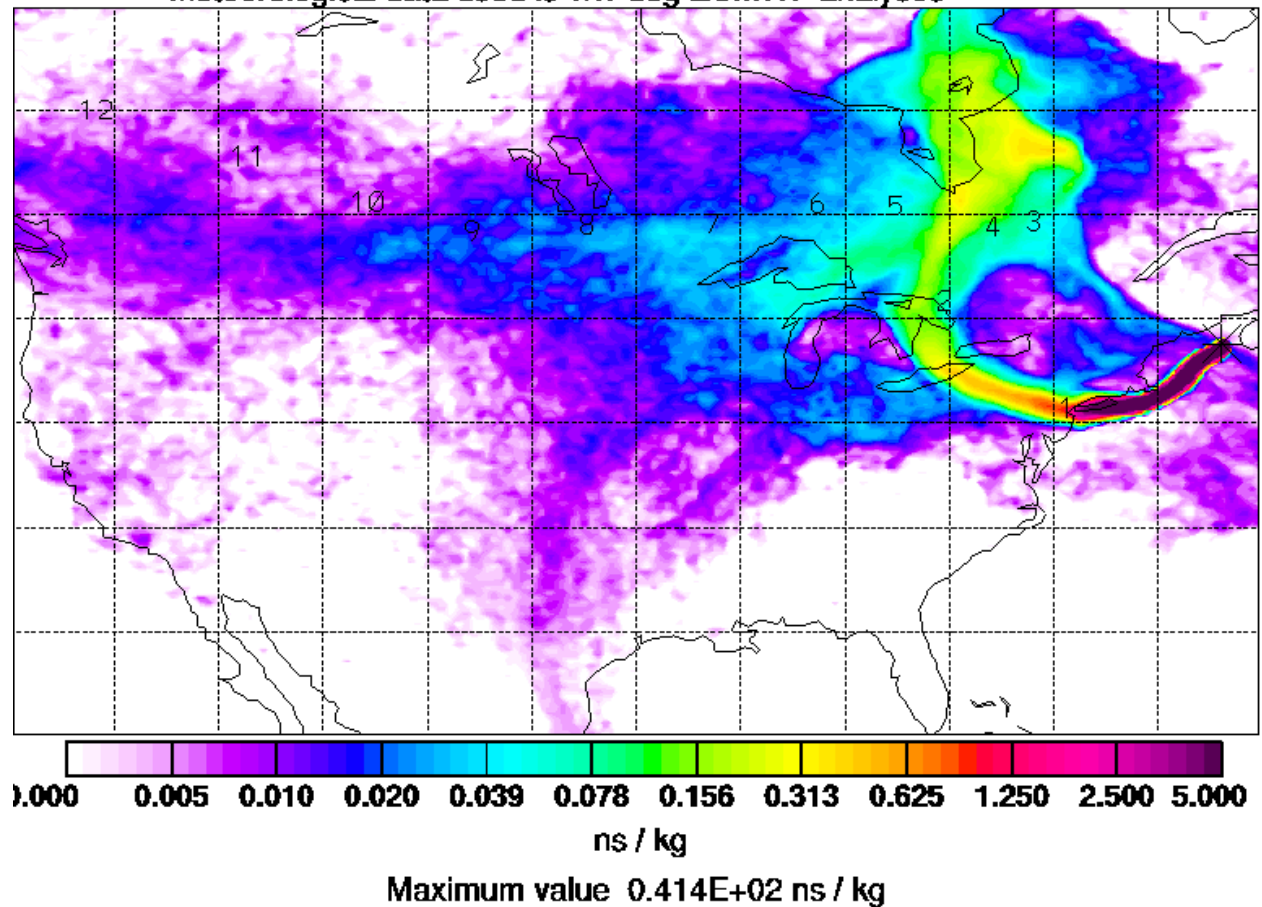


Figure 4: FLEXPART footprint for 1139-1208 UTC

Footprint S-R-Relationship for flight RHB_cruise1

Start time of sampling 20040718.232101 End time of sampling 20040718.235901

Lower release height 0 m Upper release height 30 m

Meteorological data used is 1x1 deg ECMWF analyses

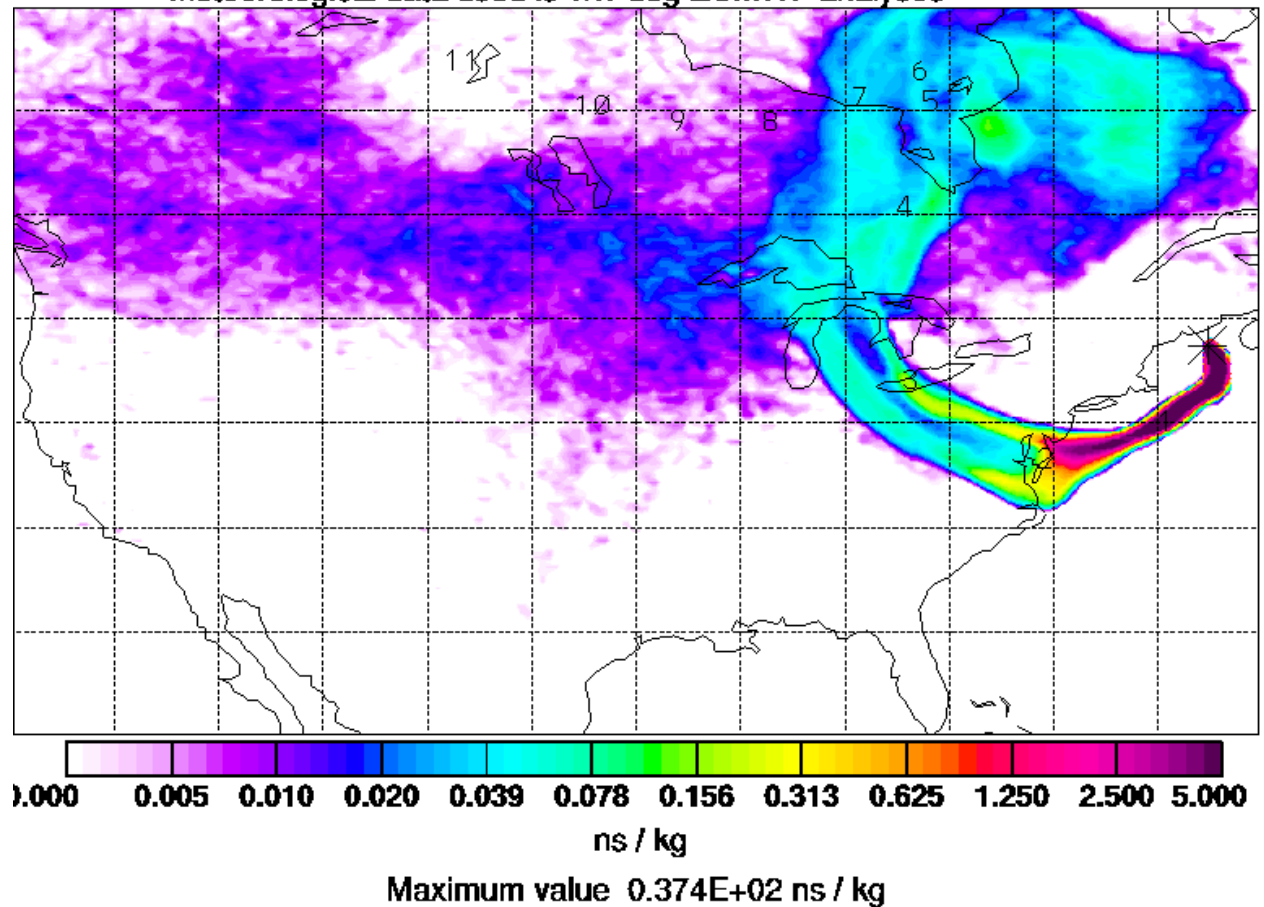


Figure 5: FLEXPART footprint for 2321-2359 UTC

Ship track

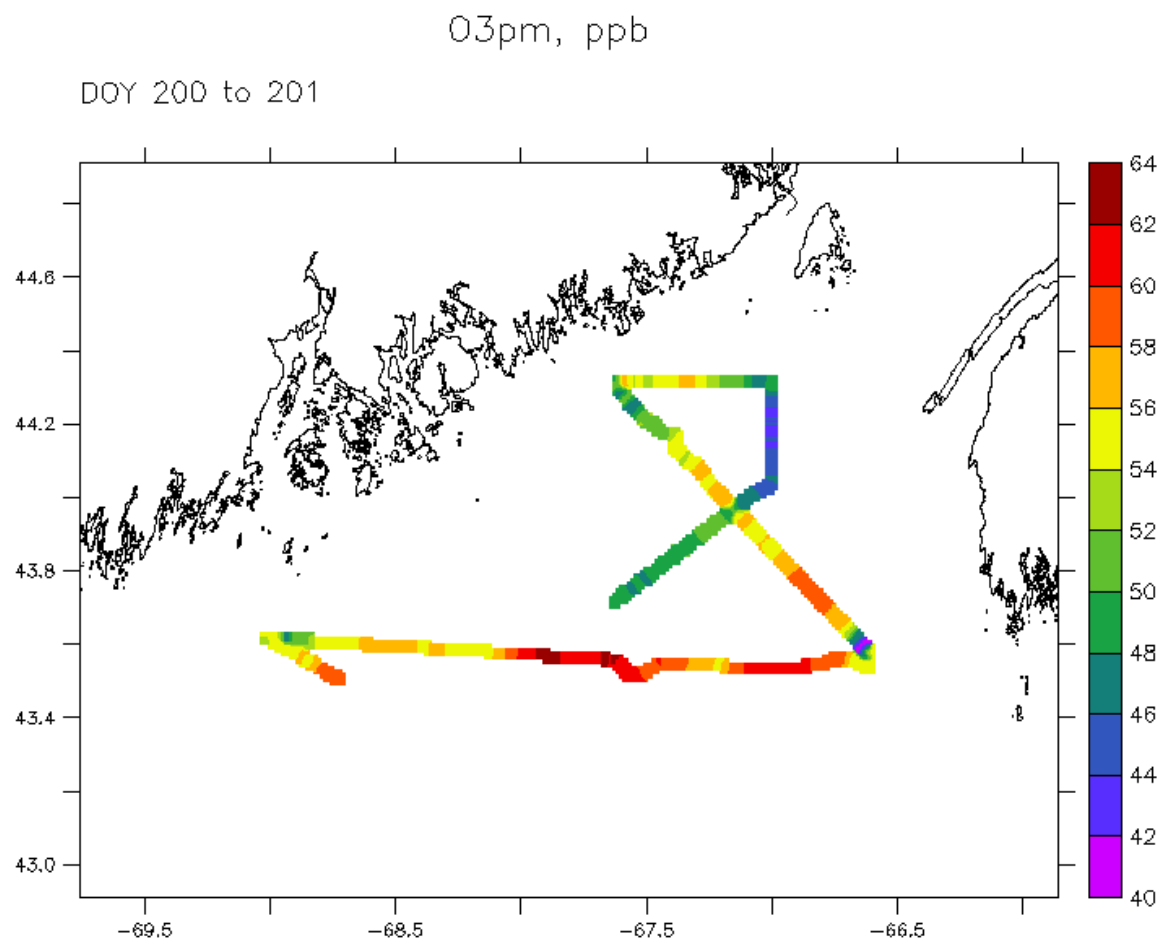


Figure 6: Ozone along the ship track

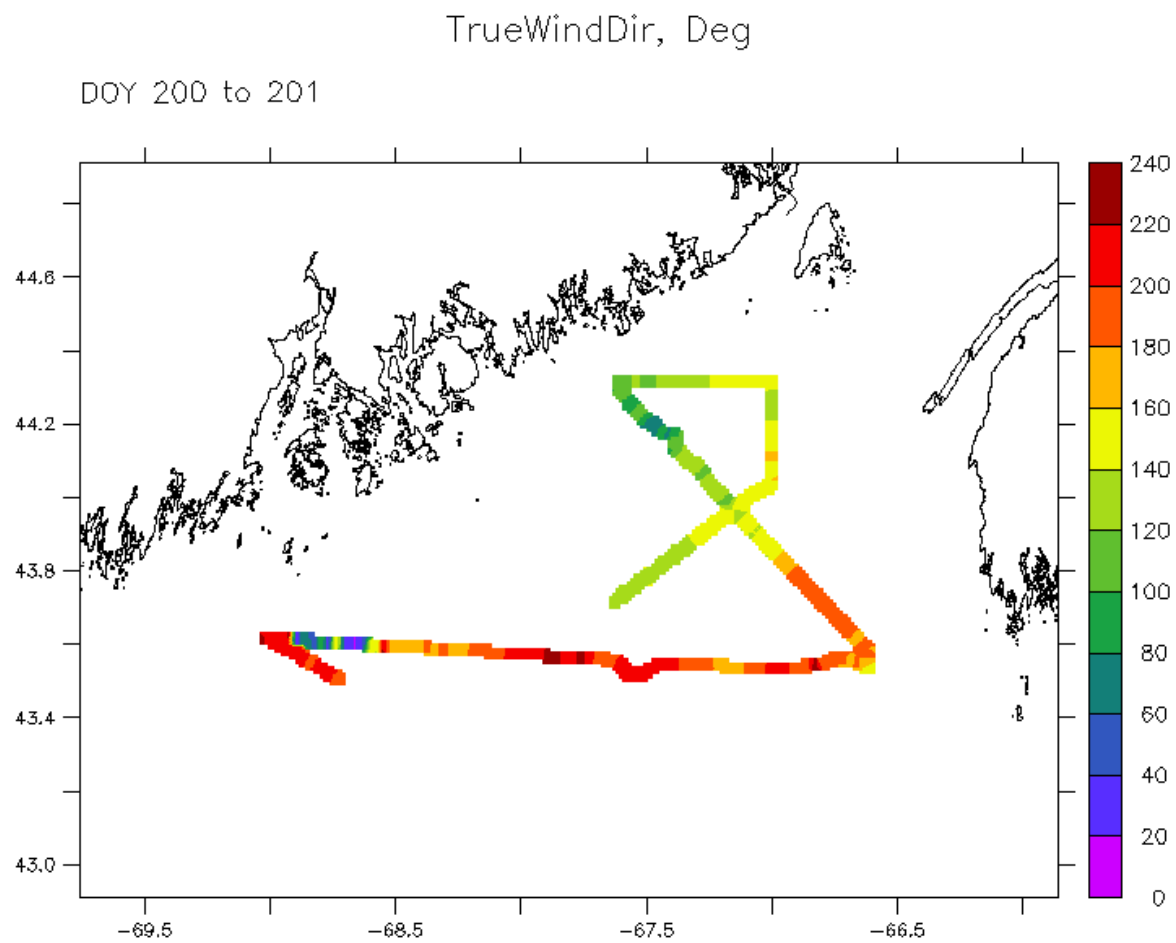


Figure 7: Wind direction along the ship track